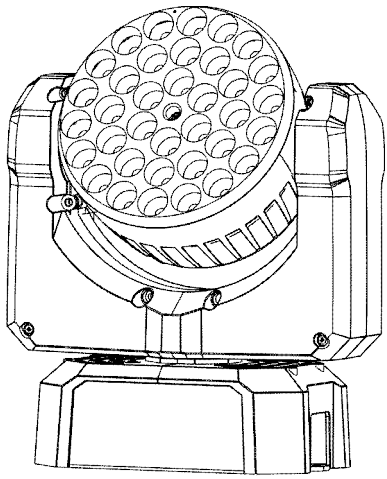
LED Moving head
User manual



LM-2013

Please read the manual before installing and using this lighting
Keep it for future reference

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Introduction

Thank you for using our products!

LM-2013 is a very small and light LED Moving head light, its weight is only 3.6 kg. Its beam is very narrow and very bright . It runs extremely fast. It is suitable for bar, disco, stage , decoration ,etc .

This product complies with the following standards:

IEC60598-1:2003

IEC60598-2-17:1984+A2:1990

Main features

36 Pcs high-power 3W CREE XP-E LED

Excellent mixed color system

Dimmer very smooth

Tight, punchy beam

compact，silent design

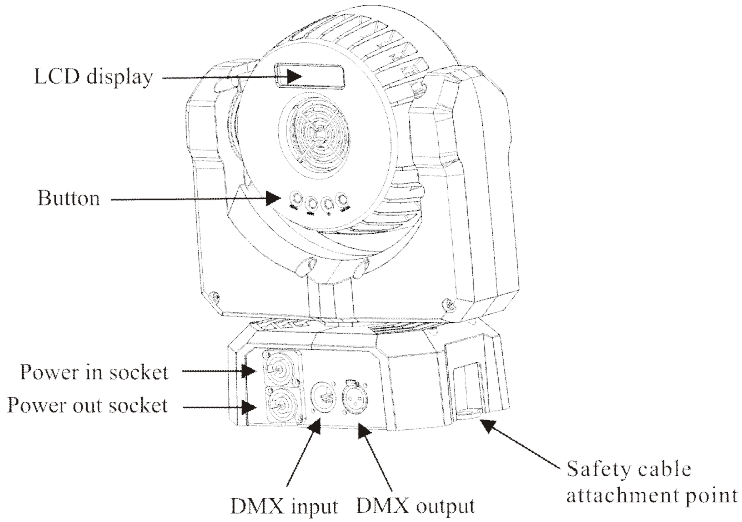
Speedly

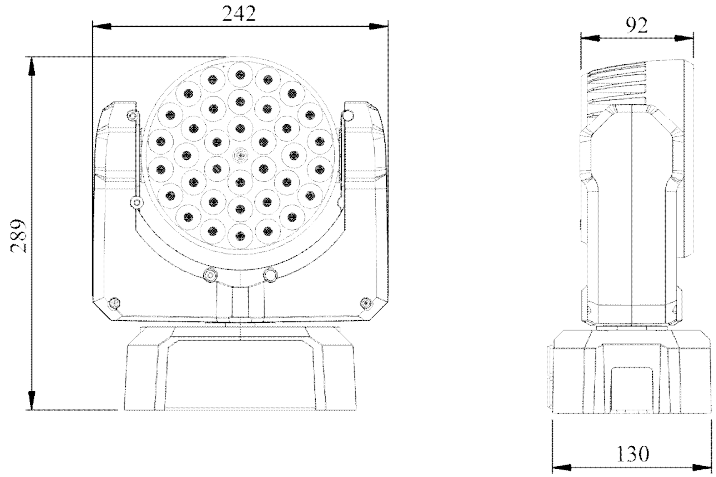
Blue LCD display

Standar DMX-512 communication protocol

Easy for power connection

Overview and Dimensions





All dimensions are in millimeters

Safety information

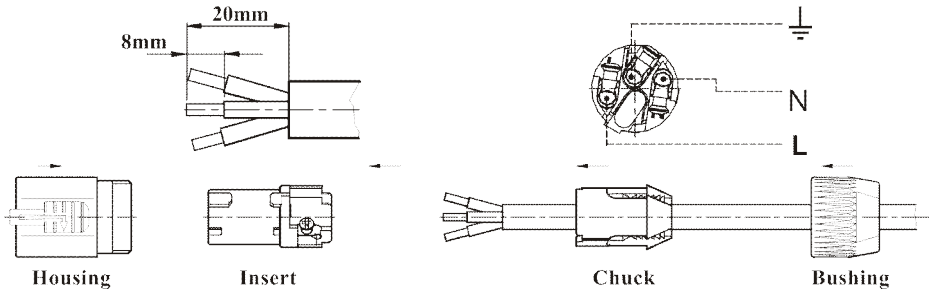
important

Every person involved with the installation , operation and maintenance of this device has to be qualified and follow the instructions of this manual . Manufacturer will not with responsibility for those operation not according to this Instruction

- Verify that the voltage matches the rated voltage.
- When the voltage is 110V , Do not connect more than 10 lightings in total to AC mains power in one interconnected daisy chain
- When the voltage is 220V , Do not connect more than 20 lightings in total to AC mains power in one interconnected daisy chain
- Before using the fixture, check that all power distribution equipment and cables are in perfect condition and rated for the current requirements of all connected devices.
- Always ground (earth) the fixture electrically .
- Avoiding hit the Light when you are move or install the light .
- The minimum distance between light-output and the illuminated surface must be more than 0.5 meters. Keep all combustible materials (for example fabric, wood, paper) at least 0.2 meters away from the fixture .
- Do not expose the fixture to rain or moisture.
- Avoid looking directly into the light source (especially those who suffer from epileptic fits)
- Maximum ambient temperature (Ta) is 40°C. Do not operate fixture at temperatures higher than this .
- The Maximum surface temperature is 50°C
- When suspending the fixture above ground level, verify that the structure can hold at least 10 times the weight of all installed devices.
- Verify that all external covers and rigging hardware are securely fastened and use an approved means of secondary attachment such as a safety cable.

Power connection

Installing a Neutrik connector on a power cable

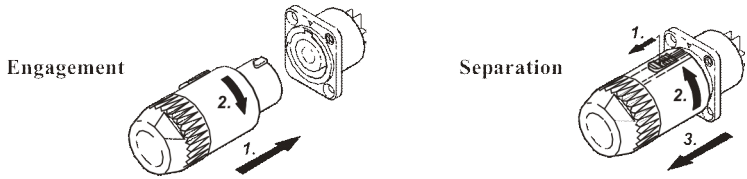


- Put bushing and chuck onto thecable.
- Prepare cable as shown above. The power cable must is a three-conductor 2.5mm^2 cable.
- Insert the wire into the terminals and fasten the clamping device by a flat screw driver.
- Push insert and chuck into housing (pay attention to the guiding keyway.)
- Fasten bushing.

the color-coding schemes and some possible pin identification schemes; if pins are not clearly identified , or if you have any doubts about proper installation , consult a qualified electrician

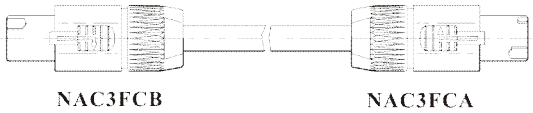
Wire color	*Conductor*	*Symbol*
Brown	Live	L
Blue	Neutral	N
Yellow/green	ground	⏚

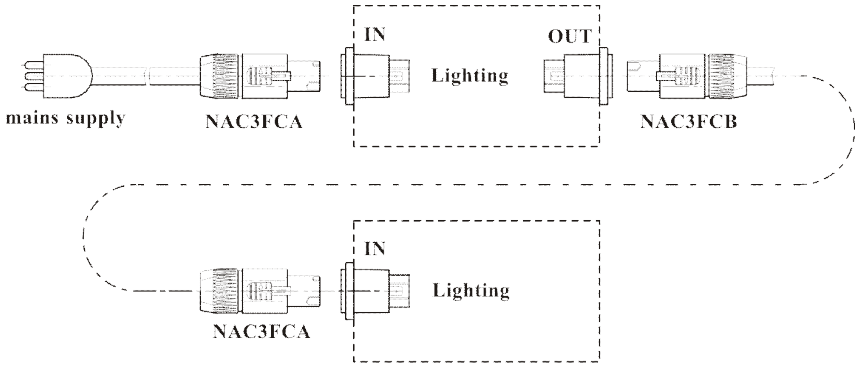
Handling



Relaying power to other devices

The lightings can be linked in a chain by power cables which installed a blue and a light-gray connectors on the two ends. the light-gray connector connects to the power out socket of the first lighting , and the blue connector connects to the power in socket of the subsequent lighting, and so on.





The power cable must is a three-conductor 2.5mm^2 cable.

When the voltage is 110V , Do not connect more than 10 lightings in total to AC mains power in one interconnected daisy chain.

When the voltage is 220V , Do not connect more than 20 lightings in total to AC mains power in one interconnected daisy chain .

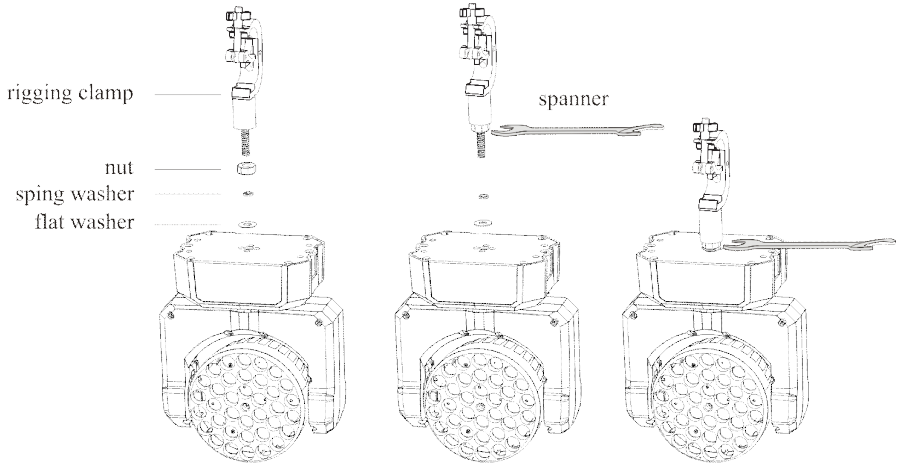
Physical installation

This lighting can be placed on a horizontal surface such as a stage or clamped to a truss or similar rigging structure in any orientation using a rigging clamp.

When suspending the fixture above ground level, verify that the structure can hold at least 10 times the weight of all installed devices.
Verify that all external covers and rigging hardware are securely fastened and use an approved means of secondary attachment such as a safety cable.

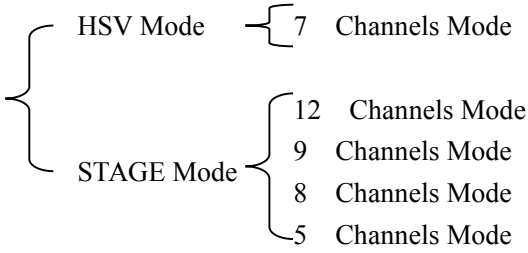
How to install a clamp to the lighting:

1. Choose a clamp with M10 bolt , the bolt is 30~40cm.
2. Screw a M10 nut to the clamp bolt , use a spanner to tighten it.
3. Install the clamp into the base of the fixture as below picture.using a spanner to make the clamp,nut,sping washer,flat washer tightly together .



DMX protocol

This lighting has five Channels modes , including:



The default mode is STAGE 12 Channels Mode. If you want to alter it, enter DMX menu .

STAGE 12 channels mode

Channel	Value	Function
CH1		**strobe**
	000-019	shutter open
	020-064	strobe1(fast to slow)
	065-069	shutter open
	070-084	strobe2:opening pulse(fast to slow)
	085-089	shutter open
	090-104	strobe3: closing pulse (fast to slow)
	105-109	shutter open
	110-124	strobe4:random strobe(fast to slow)
	125-129	shutter open
	130-144	strobe5:random opening pulse(fast to slow)
	145-149	shutter open
	150-164	strobe6: random closing pulse (fast to slow)
	165-169	shutter open

	170-184	strobe7:burst pulse(fast to slow)
	185-189	shutter open
	190-204	strobe8:random burst pulse (fast to slow)
	205-255	shutter open
CH2		**Gobal dimmer**
	000-255	0~100%
CH3:		**Pan**
	000-255	0~540° /0~630° （the maximum angle base in the setting in menu）
CH4	000-255	**Pan fine**
CH5:		**Tilt**
	000-255	0~240°
CH6:	000-255	**Tilt fine**
CH7		**Fixture control settings**
	000-009	No function
	010-014	Reset (hold for 8s)
	015-039	No function
	040-044	Normal motor speed
	045-049	Maximum motor speed
	050-054	Minimum motor speed
	055-059	No function
	060-064	Max. cooling fan speed
	065-069	No function
	070-074	Cooling fan speed trermostatically regulated
	075-109	No function
	110-114	Fast dimmer
	115-119	No function
	120-124	Smooth dimer
	125-249	No function
	250-255	Illuminate display

		Color wheel
	000-009	Dimmer channel enable
	010-014	Moroccan pink
	015-019	Pink
	020-024	Special rose pink
	025-029	Follies pink
	030-034	Fuchsia pink
	035-039	Surprise pink
	040-044	Congo Blue
	045-049	Tokyo Blue
	050-054	Deep Blue
	055-059	Just Blue
	060-064	Medium Blue
	065-069	Double CT Blue
	070-074	Slate Blue
	075-079	Full CT Blue
CH8	080-084	Half CT Blue
	085-089	Steel Blue
	090-094	Lighter Blue
	095-099	Light Blue
	100-104	Medium Blue Green
	105-109	Dark Green
	110-114	Primary Green
	115-119	Moss Green
	120-124	Fern Green
	125-129	JAS Green
	130-134	Lime Green
	135-139	Spring Yellow
	140-144	Deep Amber
	145-149	Chrome Orange
	150-154	Orange
	155-159	Gold Amber
	160-164	Millennium Gold

	165-169	Deep Golden Amber
	170-174	Flame Red
	175-179	Open
		Color wheel rotation effect
	180-201	Clockwise，fast→slow
	202-207	Stop（this will stop wherever the color is at the time）
	208-229	Counter-clockwise，slow→fast
	230-234	Open
		Random color
	235-239	Fast
	240-244	Medium
	245-249	Slow
	250-255	Open
CH9	000-255	**Red dimmer** 0~100%
CH10	000-255	**Green dimmer** 0~100%
CH11	000-255	**Blue dimmer** 0~100%
CH12	000-019 020-255	**Color temperature control** No function 100000K → 2500K

STAGE 9 channels mode

Channel	Value	Function
CH1	000-255	**Red dimmer** 0~100%
CH2	000-255	**Green dimmer** 0~100%
CH3		**Blue dimmer**

	000-255	0~100%
CH4	000-255	**Gobal dimmer** 0~100%
CH5		**strobe**
	000-019	shutter open
	020-064	strobe1(fast to slow)
	065-069	shutter open
	070-084	strobe2:opening pulse(fast to slow)
	085-089	shutter open
	090-104	strobe3: closing pulse (fast to slow)
	105-109	shutter open
	110-124	strobe4:random strobe(fast to slow)
	125-129	shutter open
	130-144	strobe5:random opening pulse(fast to slow)
	145-149	shutter open
	150-164	strobe6: random closing pulse (fast to slow)
	165-169	shutter open
	170-184	strobe7:burst pulse(fast to slow)
	185-189	shutter open
	190-204	strobe8:random burst pulse (fast to slow)
	205-255	shutter open
CH6:	000-255	**Pan** 0~540° /0~630° （the maximum angle base in the setting in menu）
CH7	000-255	**Pan fine**
CH8	000-255	**Tilt** 0~240°
CH9:	000-255	**Tilt fine**

STAGE 8 channels mode

Channel	Value	Function
CH1	000-255	**Red dimmer** 0~100%
CH2	000-255	**Green dimmer** 0~100%
CH3	000-255	**Blue dimmer** 0~100%
CH4	000-255	**Gobal dimmer** 0~100%
CH5:	000-255	**Pan** 0~540° /0~630° （the maximum angle base in the setting in menu）
CH6	000-255	**Pan fine**
CH7	000-255	**Tilt** 0~240°
CH8:	000-255	**Tilt fine**

STAGE 5 channels mode

Channel	Value	Function
CH1	000-255	**Red dimmer** 0~100%
CH2	000-255	**Green dimmer** 0~100%
CH3	000-255	**Blue dimmer** 0~100%
CH4:	000-255	**Pan** 0~540° /0~630° （the maximum angle base in the setting in menu）
CH5	000-255	**Tilt** 0~240°

HVS 7 channels mode

Channel	Value	Function
CH1	000-255	**Hue** 0~100%
CH2	000-255	**Saturation** 0~100%
CH3	000-255	**Value** 0~100%
CH4:	000-255	**Pan** 0~540°/0~630° （the maximum angle base in the setting in menu）
CH5	000-255	**Pan fine**
CH6	000-255	**Tilt** 0~240°
CH7:	000-255	**Tilt fine**

Button

SET/ESC： Call the main menu, or escape the current menu(i.e. return to the upper menu and give up the selected item or parameter) .

UP： Browse the menu item forward or increase the parameter .

DOWN： Browse the menu item backward or decrease the parameter .

ENTER： Confirm the selected item or parameter(i.e. enter the next menu, or escape the current menu and save the selected item or parameter)

Menu

Menu navigation

①**SET menu** ← SET/ESC — **Addr:001(DMX mode）** — ENTER → **DMX menu②**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **ManualDimmer** — ENTER → **Manualdimmer menu③**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **Red** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **Green** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **Blue** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **Yellow** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **Cyan** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **Purple** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **PureWhite** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **Amber** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **AllWhite** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **3200K** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **5600K** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **6500K** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **8500K** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **10000K** — ENTER → **null**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **ChangColor** — ENTER → **Motor Run Menu④**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **Twinkling** — ENTER → **Motor Run Menu**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **Fade** — ENTER → **Motor Run Menu**

UP ↑ ↓ DOWN

SET menu ← SET/ESC — **Macro** — ENTER → **Macro menu⑤**

UP ↑ ↓ DOWN

①SET menu

SET Menu:

```
├Reset Machine
|   ├Reset:ON                ;Reset the machine
|   └Reset:OFF               ;Do not reset the machine(default)
├Load Parameter
|   ├Load ON                 ;Restore factory settings
|   └Load OFF                ;Do not restor factory settiings(default)
├Master / Alone
|   ├Master Mode
|   └Alone Mode              ;(default)
├Auto / Sound
|   ├Auto Mode
|   └Sound Mode
├MIC Sense:00~99%           ;(default:20)
├TC Switch                  ;Temperature control,it will reduce the output
|   ├TC Switch Mask           afeter over temperature
|   |   ├Switch ON           ;Enable the switch(default)
|   |   └Switch OFF          ;Disable the switch
|   └TC Switch Temp          (password protected)
|       ├TC Temp Cap         ;Capture the current temperature
|       └TC Temp Set         ;Set the value of the TC switch
├Scan Setting
|   ├Reverse Pan
|   |   ├Reverse Pan :ON
|   |   └Reverse Pan :OFF    ;(default)
|   ├Reverse Tilt
|   |   ├Reverse Tilt:ON
```

```
|   |   └Reverse Tilt:OFF          ;(default)
|   ├Pan Degree                    ;Set the max angle rage of the Pan
|   |   ├Pan Degree:630
|   |   └Pan Degree:540            ;(default)
|   ├Scan BlackOut
|   |   ├ScanBlackOut:ON           ;Black out while the motor runs
|   |   └ScanBlackOut:OFF          ;(default)
|   └Feed Back
|       ├Feed Back:ON              ;Enable pan/tilt position feedback;(default)
|       └Feed Back:OFF             ;Disable the feedback
├Dimmer Curve
|   ├Square Law                    ;(default)
|   ├Inv Square Law
|   └S-Vurve
├Dimmer Speed
|   ├Dimmer: Smooth                ;(default)
|   └Dimmer: Fast
├Dmx Reset
|   ├Enabled                       ;Enable reset via DMX;(default)
|   ├Disabled                      ;Disable reset via DMX
├Fan                              ;Fan speed
|   ├Regulated                     ;Thermostatically regulated(default)
|   └Full                          ;Max. cooling fan speed
└Information
    ├Time:tt/mm/ss
    ├Date:mm/dd/yy
    └Use Time :hour: minute
```

②DMX menu

DMX Menu: ;DMX mode
├DMX Address: 001 ;Set DMX address
├No DMX Signal ;Run if there is no DMX signal
│ ├Stop Run ;(default)
│ ├Hold Run
│ ├Auto Run
│ └Sound Run
└DMX Channels
├HSV Mode
└STAGE Mode
├12 Channels ;(default)
├9 Channels
├8 Channels
└5 Channels

③Macro menu

Macro Menu: ;Programable auto program
├Motor Run ;Motor automatically run or not
│ ├Auto Run:OFF ;Motor do not run
│ └Auto Run:ON ;Motor automatically run
├Step Quantity:3 ;0~62 steps(default:3)
├Program Step 01 ;Select one built-in program for the 1st step of the macro
│ ├ChangeColor
│ ├Twinkling
│ └Fade
│ .....
└Program Step 62

④Motor Run Menu

Motor Run Menu

└Motor Run	;Motor automatically run or not
├Auto Run:OFF	;Motor do not run
└Auto Run:ON	;Motor automatically run

⑤ManualDimmer menu

ManualDimmer:

├Light Switch	
│ ├Light ON	;(default)
│ └Light OFF	
├Light Red:255	;Red dimmer 0~255(default :255)
├Light Green:255	;Green dimmer 0~255 (default :255)
├Light Blue:255	;Blue dimmer 0~255 (default :255)
├Light Strobe:000	;Blue dimmer 0~255 (default :0)
├Scan Pan:0	;(default:0)
├Scan Tilt:0	;(default:0)
├Scan PanFine:000	;(default:0)
├ScanTiltFine:000	;(default:0)
└Light Calibrate	
├Cal Pan:-128~+127	;Pan calibration(default:0)
└Cal Tilt:-128~+127	;Tilt calibration(default:0)

Technical parameters

Rated voltage：100~240V

Rated frequency：50/60Hz

Power：120W

LED：3W CREE XP-E

LED lifespan：about 50，000hours

LED quantity：12R+12G+12B

Color mixing： R：0~255，G：0~255 ，B：0~255

Effect: strobe, fade , color wheel

Beam angle：8°

Rotation Angle：Pan 540°/630° ，Tlit 240° ，self-correcting

Channel quantity：5，7，8，9，12

Control mode：DMX512，Master/slave，Sound actived

Protection grade：IP20

Working environment: indoor

Environment temperature：-30~+40℃

Size：L242*W130*H289mm

Weight：3.6kg